Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1093982

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 34434
Name: Edison Operating Company LLC
Address 1: 9427 E. Cross Creek
Address 2:
City: WICHITA State: KS Zip: 67206 + ____
Contact Person: David Withrow
Phone: (316) 613-1544
CONTRACTOR: License # 34233
Name: Maverick Drilling LLC
Wellsite Geologist: Derek Patterson
Purchaser: NCRA

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☑ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☐ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

☐ Deepening ☐ Re-perf. ☐ Conv. to ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

06/20/2012	06/27/2012	07/11/2012
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-007-23902-00-00
Spot Description:
_ - NW - NW - SW Sec. 31 Twp. 34 S. R. 12 ☐ East ☑ West
2970 Feet from ☑ North / ☐ South Line of Section
330 Feet from ☐ East / ☑ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☑ NW ☐ SE ☐ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*

Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84

County: Barber
Lease Name: OF Sterling Well #: 1-31
Field Name: Hardtner
Producing Formation: Mississippian
Elevation: Ground: 1461 Kelly Bushing: 1464
Total Vertical Depth: 5312 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 332 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 6200 ppm Fluid volume: 4800 bbls
Dewatering method used: Evaporated

Location of fluid disposal if hauled offsite:

Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

☑ **Confidentiality Requested**
Date: 09/18/2012
☑ **Confidential Release Date:** 09/18/2014
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 09/19/2012

1093982

Operator Name: Edison Operating Company LLC Lease Name: OF Sterling Well #: 1-31

Sec. 31 Twp. 34 S. R. 12 ☐ East ☑ West County: Barber

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☐ Yes ☑ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Dual Induction
Compensated Density
Micor Log

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Heebner	3857	-2393
Lansing	4052	-2588
BKC	4591	-3127
MIssissippian	4792	-3328
Viola	5282	-3818

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface Casing	12.5	8.625	24	332	Acon prem	225	
Production csg	7.875	4.5	11.6	5313	AA-2 w gas stop	190	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate ___ Protect Casing ___ Plug Back TD ___ Plug Off Zone	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☐ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
2	4822-4848	acid 3500gal 15% DSFE NE	Mississippian
		Frac 56Kgal slick,127K# sand	MIssissippian

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	10	0	70		

DISPOSITION OF GAS: ☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION: ☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)* ☐ Other *(Specify)* _____

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

ALLIED OIL & GAS SERVICES, LLC 053819

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Medicine Lodge KS

DATE 06/20/2012	SEC. 32	TWP. 34s	RANGE 12w	CALLED OUT	ON LOCATION	JOB START	JOB FINISH 2:00AM
LEASE O.F. Sterling	WELL # 1-31		LOCATION Hardtner KS 1 North, 1½ West, ¼ North into			COUNTY Barber	STATE KS
OLD OR (NEW) (Circle one)							

CONTRACTOR Maverick
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D. 334
CASING SIZE 8⅝ DEPTH 332.38
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15ft
PERFS.
DISPLACEMENT 20bbls fresh H_2O

OWNER Edison Operating

CEMENT

AMOUNT ORDERED 225sx 60:40:3% cc + 2% Gel

COMMON Class A	135sx	@ 16.25	2193.75
POZMIX	90sx	@ 8.50	765
GEL	4sx	@ 21.25	85
CHLORIDE	8sx	@ 58.20	465.60
ASC		@	
HANDLING	241.73	@ 2.10	507.63
MILEAGE	10.16 X 25 X 2.35		596.90
		TOTAL	4613.88

EQUIPMENT

PUMP TRUCK # 471/362 CEMENTER Jason Thiesen
HELPER Ron Gulley
BULK TRUCK # 421 DRIVER Garret Mclemore
BULK TRUCK # DRIVER

REMARKS:

Did circ cement

Thank you

SERVICE

DEPTH OF JOB	332		
PUMP TRUCK CHARGE			1125
EXTRA FOOTAGE	32ft	@ .95	30.40
MILEAGE	25	@ 7	175
MANIFOLD + Head		@	200
LV	25	@ 4	100
		@	
		TOTAL	1630.40

CHARGE TO: Edison Operating
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

8⅝ wooden Plug		@ 92	92
		@	
		@	
		@	
		@	
		TOTAL	92

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES 6336.28
DISCOUNT 20% 1267.26 IF PAID IN 30 DAYS
Net $5069.02

PRINTED NAME Cecil E. Farmer

SIGNATURE Cecil E. Farmer

ASIC
gy services, L.P.

TREATMENT REPORT

Customer: EDison OPerating	Lease No.	Date: 6-28-12
Lease: OF STerling	Well #: 1-31	
Field Order #: 6345 · Station: Pratt	Casing: 4 1/2 · Depth: 5270	County: BarBer · State: KS
Type Job: CNW 4 1/2 LS	Formation	Legal Description: 31-34-12

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size: 4 1/2	Tubing Size	Shots/Ft	190 sacks AA-2 with .25	Acid: AA-2 with .25% Defoamer, 10% Salt, 1% Gas Blok	RATE	PRESS	ISIP
Depth: 5299	Depth	From	To: .5% FLA-322, 5 Lb/s	Pre Pad: FLA-322, 5 Lb/s	Max: Gilsonite		5 Min.
Volume: 83	Volume	From	To: 15.3 Lb/Gal., 5.47 Gal.	Pad: 6.7 Gal., 5.47 Gal./sk., 1.36	Min: sk., 1.36 CU.FT./sk.		10 Min.
Max Press: 1,500	Max Press	From	To	Frac	Avg		15 Min.
Well Connection: Plug Container	Annulus Vol.	From	To: 30 sacks AA-2 in Rat Hole,		HHP Used: 20 sacks AA-2 in Mouse		Annulus Pressure: hole
Plug Depth: 5,254 Feet	Packer Depth	From	To	Flush: 83 Bbl. Fresh Water	Gas Volume		Total Load

Customer Representative: BOB Kasper | Station Manager: Gordley | Treater: Clarence R. Messick

Service Units	27463	19960 / 21010	37216						
Driver Names	Melson	Pierson	Messick						

Time P.M.	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
8:15					On Loc safety meeting
					Run 126 JTS 4 1/2 x 10.5 csg
					turBO on 1,10,12,12,14,16,18,20
					Bask. on TOP of 21
12:30					CSG on Bottom
					Hook UP TO CSG / Break CIRC. w Rig
1:00	300		20	5	~~Supper Flush~~ H2O
			12	5	~~H2O Spacer~~ Supper Flush
			3	5	~~Mix~~ H2O Spacer
	300		46	5	Mix 190 SK AA2 Cement
					Clear Pump and Line
1:28	100			6.5	Start Displacment
			71	5	Lift PSI
					Slow Rate
1:45	700		83		Plug Down
	1,500				Pressure up
					Release pressure. Float Shoe held.
			7.5	3	Plug Rat and Mouse holes
					Wash up pump truck.
					Job Complete.
					Thank You.
					Clarence, Joe, Jesse

10244 NE Hiway 61 • P.O. Box 8613 • Pratt, KS 67124-8613 • (620) 672-1201 • Fax (620) 672-5383

Taylor Printing, Inc. 620-672-3656

EDISON OPERATING COMPANY LLC

Scale 1:240 (5"=100') Imperial

Well Name:	OF Sterling #1-31		
Location:	Sec. 31 - T34S - R12W, Barber County, KS		
Licence Number:	API No.: 15-007-23902-0000	Region:	Hardtner
Spud Date:	June 19, 2012	Drilling Completed:	June 26, 2012
Surface Coordinates:	2305' FSL & 335' FWL		
Bottom Hole Coordinates:			
Ground Elevation (ft):	1454'	K.B. Elevation (ft):	1464'
Logged Interval (ft):	3500' To: 5314'	Total Depth (ft):	5314' (LTD)
Formation:	TD in Viola; Completion in Mississippian		
Type of Drilling Fluid:	Chemical Gel/Polymer		

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Edison Operating Company, LLC
Address: 1223 N. Rock Road
Building I-100
Wichita, KS 67206

GEOLOGIST

Name: Derek W. Patterson
Company: Valhalla Exploration, LLC
Address: 133 N. Glendale
Wichita, KS 67208

REMARKS

After review of the open hole logs, log calculations, and sample evaluation, it was decided by operator to run 4 1/2" production casing to further evaluate the Mississippian section of the OF Sterling #1-31.

The well samples were saved, submitted, and will be available for review at the Kansas Geologic Survey's Well Sample Library located in Wichita, KS.

Respectfully Submitted,

Derek W. Patterson

COMMENTS

No DSTs were performed.

The drill time and gas curves have been shifted 2' lower/deeper from 3500'-4290' and from 5100'-5212' to correspond to the electric log curves.

EDISON OPERATING COMPANY LLC

General Information

Service Companies

Drilling Contractor:	Maverick - Rig #106	Drilling Fluid:	Mud-Co/Service Mud
Tool Pusher:	Cecil Farmer	Engineers:	Terry Ison
Daylight Driller:	Craig Kaltenbach		Brad Bortz
Evening Driller:	Sam Staggs		
Morning Driller:	Sam Staggs, Jr.	Logging Company:	Superior Well Services
Relief:	Larry Wilburn	Engineer:	Jeff Luebbers
		Logs Ran:	DI, CDNL, Micro, Sonic
Gas Detector:	Bluestem Environmental		
Engineer:	Sidney Eldelbrock	Testing Company:	No DSTs
Unit:	0259	Tester:	N/A
Operational By:	1900'		

Deviation Survey

Depth	Survey
332'	1/2°
1307'	1/4°
2335'	1/2°
4650'	1/4°
RTD - 5312'	1°

Pipe Strap

Depth	Pipe Strap
4650'	0.10' Short to Board

Bit Record

Bit #	Size	Make	Type	Serial Number	Depth In	Depth Out	Feet	Hours
1	12 1/4"	JZ	Rock	RR	0'	332'	332'	2.75
2	7 7/8"	Logistics	PL506	7807	332'	4650'	4318'	57.25
3	7 7/8"	JZ	QX21 RR	5111019	4650'	5312'	662'	35.25

Surface Casing

6.21.2012	Ran 8 joints of new 24 #/ft 8 5/8" casing, tallying 322.38', set @ 332' KB. Cemented with 225 sacks 60/40 POZ mix (3% Calcium Chloride, 2% gel). Cement did circulate. Plug down @ 0200 hrs 6.21.12. By Allied Oil Well Services.

Production Casing

6.27.2012 - 6.28.2012	Ran 125 joints of new 11.6 #/ft 4 1/2" production casing, tallying 5312', set @ 5309' KB. Cemented with 195 sacks AA2. Plug down @ 0200 hrs 6.28.12. By Basic Energy Services.

EDISON OPERATING COMPANY LLC

Daily Drilling Report

Date	7:00 AM Depth	Previous 24 Hours of Operations
6.24.2012	4650'	Drilling and connections Kansas City, Lansing, Base Kansas City, and into Marmaton. Stop @ 4650' for bit trip. CTCH, short trip (20 stands), 0430 hrs 6.24.12. CTCH. Made 718' over past 24 hrs of operations. Made 1037' over past 24 hrs of operations WOB: 10-14k RPM: 90 PP: 800 SPM: 58-60 DMC: $2,294.75 CMC: $9,108.95
6.25.2012	4880'	CTCH, drop survey, strap out for bit trip, 0730 hrs 6.24.12. Geologist Derek W. Patterson on location, 1125 hrs 6.24.12. TIH with conventional bit. CTCH, resume drilling following bit trip, 1500 hrs 6.24.12. Drilling and connections Marmaton, Cherokee, and into Mississippian. CFS @ 4820' (Miss). Resume drilling and connections Mississippian. CFS @ 4850' (Miss). Resume drilling and connections Mississippian. CFS @ 4880' (Miss). Made 230' over past 24 hrs of operations WOB: 38k RPM: 70 PP: 900 SPM: 58 DMC: $1,602.80 CMC: $10,711.75
6.26.2012	5095'	CFS @ 4880' (Miss). Resume drilling and connections Mississippian. Loss of circulation @ 5095'. Rig down to repair hole, 2245 hrs 6.25.12. Made 215' over past 24 hrs of operations WOB: 38-40k RPM: 75 PP: 900-1000 SPM: 56 DMC: $2,928.80 CMC: $13,640.55
6.27.2012	RTD - 5312' LTD - 5314'	Rig down to repair hole. Circulation regained, resume drilling, 0830 hrs 6.26.12. Drilling and connections Mississippian, Kinderhook, Woodford, and into Misener Sand. CFS @ 5272' (Misener). Resume drilling and connections Misener Sand and into Viola, ahead to RTD of 5312'. RTD reached, 2155 hrs 6.26.12. CTCH, short trip (20 stands). CTCH, drop survey, TOH for open hole logging operations, 0230 hrs 627.12. Rig up loggers. Commence open hole logging operations, 0530 hrs 6.27.12. Made 217' over past 24 hrs of operations WOB: 38-40k RPM: 75 PP: 900-1000 SPM: 56 DMC: $5,007.45 CMC: $18,648.00
6.28.2012	RTD - 5312' LTD - 5314'	Conducting open hole logging operations. Open hole logging operations complete, 1130 hrs 6.27.12. Orders received to run 4 1/2" production casing for further evaluation of the Mississippian. Geologist Derek W. Patterson off location, 1230 hrs 6.27.12. DMC: $2,086.80 CMC: $20,734.80

EDISON OPERATING COMPANY LLC

Well Comparison Sheet

	Drilling Well				Comparison Well				Comparison Well			
	Edison Operating Co - OF Sterling #1-31 2305' FSL & 335' FWL Sec. 31 - T34S - R12W 1464 KB				Edison Operating Co - Sterling #1-31 W2 W2 NW Sec. 31 - T34S - R12W Oil - Mississippian 1471 KB		Structural Relationship		Bachus Oil Co - Sterling #2 SE NE SE SEC. 36 - T34S - R13W Oil - Mississippian 1451 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Elgin Sand	3626	-2162	3624	-2160	3631	-2160	-2	0	3622	-2171	9	11
Heebner	3844	-2380	3846	-2382	3864	-2393	13	11	3843	-2392	12	10
Toronto	3862	-2398	3863	-2399	3884	-2413	15	14	3859	-2408	10	9
Douglas	3908	-2444	3910	-2446	3944	-2473	29	27	3897	-2446	2	0
Brown Lime	4048	-2584	4050	-2586	4060	-2589	5	3	4052	-2601	17	15
Lansing	4052	-2588	4054	-2590	4065	-2594	6	4	4057	-2606	18	16
Kansas City	4358	-2894	4358	-2894	4356	-2885	-9	-9	4355	-2904	10	10
Stark	4531	-3067	4536	-3072	4535	-3064	-3	-8	4530	-3079	12	7
Hushpuckney	4562	-3098	4564	-3100	4563	-3092	-6	-8	4558	-3107	9	7
Base Kansas City	4591	-3127	4592	-3128	4590	-3119	-8	-9	4586	-3135	8	7
Marmaton	4628	-3164	4628	-3164	4627	-3156	-8	-8	4622	-3171	7	7
Cherokee	4751	-3287	4749	-3285	4746	-3275	-12	-10	4742	-3291	4	6
Mississippian	4792	-3328	4788	-3324	4787	-3316	-12	-8	4781	-3330	2	6
Osage	4997	-3533	4998	-3534	5007	-3536	3	2				
Compton	5109	-3645	5114	-3650	5109	-3638	-7	-12				
Kinderhook	5140	-3676	5143	-3679	5140	-3669	-7	-10				
Woodford	5214	-3750	5215	-3751	5211	-3740	-10	-11				
Misener Sand	5263	-3799	5265	-3801	5261	-3790	-9	-11	Not Penetrated			
Viola	5284	-3820	5284	-3820	5280	-3809	-11	-11				
Simpson	Not Penetrated				5377	-3906	N/A	N/A				
Simpson Sand					5408	-3937	N/A	N/A				
Total Depth	5312	-3848	5314	-3850	5477	-4006	158	156	4855	-3404	-444	-446

ROCK TYPES

LITHOLOGY
- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol
- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol
- Shgy
- Sltst
- Ss
- Till
- Sltstn
- Shale
- Sandylms
- Lms
- Gry sh
- Dtd
- Dol
- Carb sh
- pipesymbol
- unknown lith
- Red shale

FOSSIL
- Oomoldic
- Fuss
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

MINERAL
- Slty
- Sand
- Dol
- Chlorite
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

STRINGER
- Red shale
- Sh
- Sandylms
- Lms
- Grysltt
- Grysh
- Dol
- Clystn
- Carbsh
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OIL SHOW
- Gas show
- Good
- Fair
- Poor
- Dead

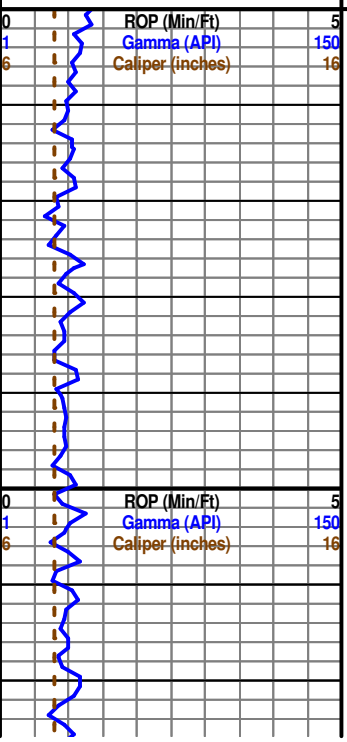
INTERVAL
- Dst
- Core
- Dst
- Straddle test ta

EVENT
- Rft
- Sidewall
- Dst
- Open hole
- Perforations

Curve Track 1
ROP (Min/Ft)
Gamma (API)
Caliper (inches)

Depth | Lithology | Oil Shows | Geological Descriptions

Engineering Data
TG (Units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)



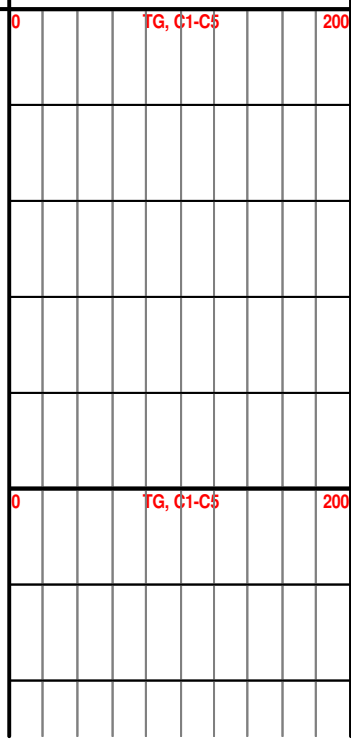
Edison Operating Company, LLC
OF Sterlng #1-31
2305' FSL & 335' FWL
Sec. 31 - T34S - R12W
Barber Co., KS

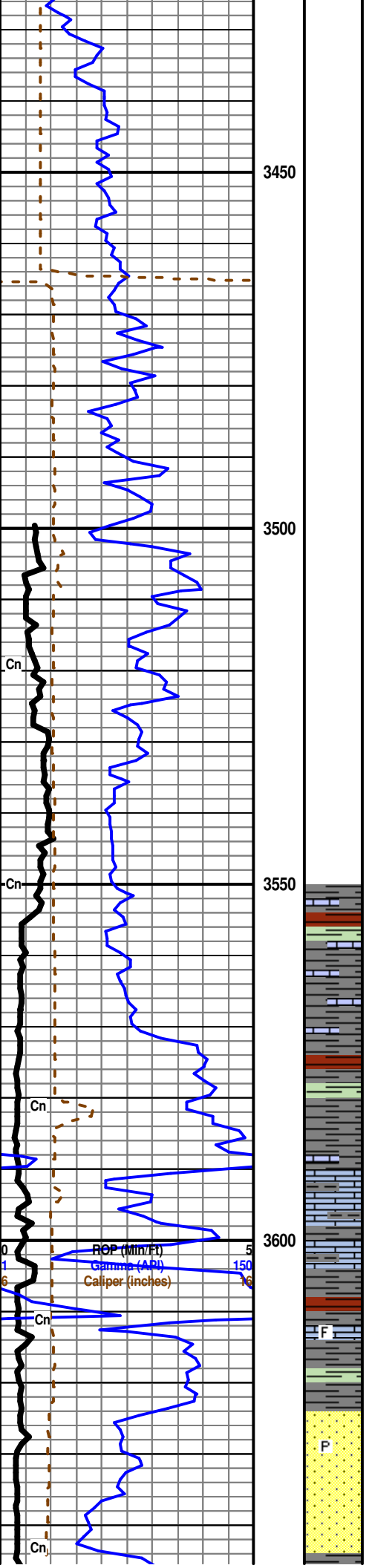
API: 15-007-23902-0000

Elevation: 1454' GL
1464' KB

Geologist: Derek W. Patterson

Displace Mud System @ 3396'





Shale: mostly gray dk gray some brick red dk green, blocky and soft, some waxy, fissile in part, scattered limey material, with scattered Limestone stringers: gray dk cream, dense tight matrix, vfxln, fossiliferous, poor interxln porosity, no shows noted, no fluorescence.

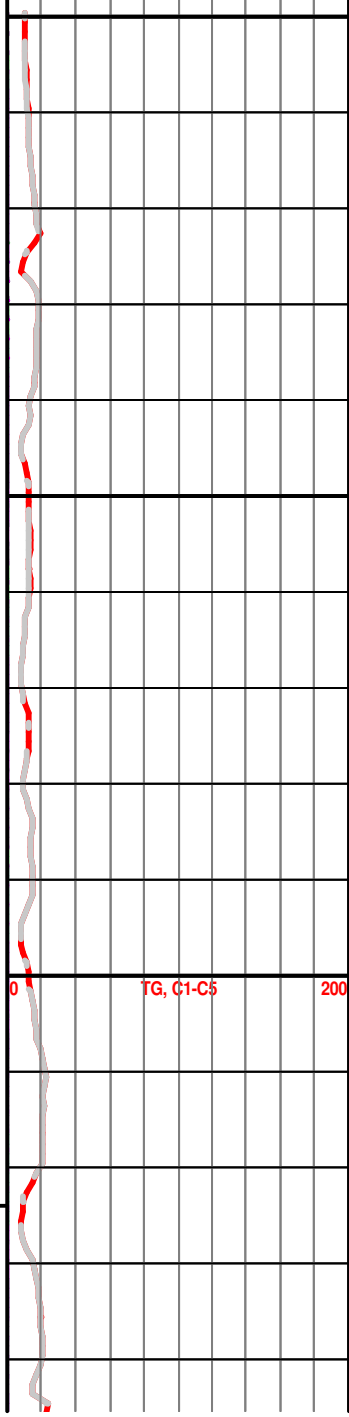
Shale: mostly gray dk gray some brick red dk green, blocky and soft, some waxy, fissile in part, some slightly limey.

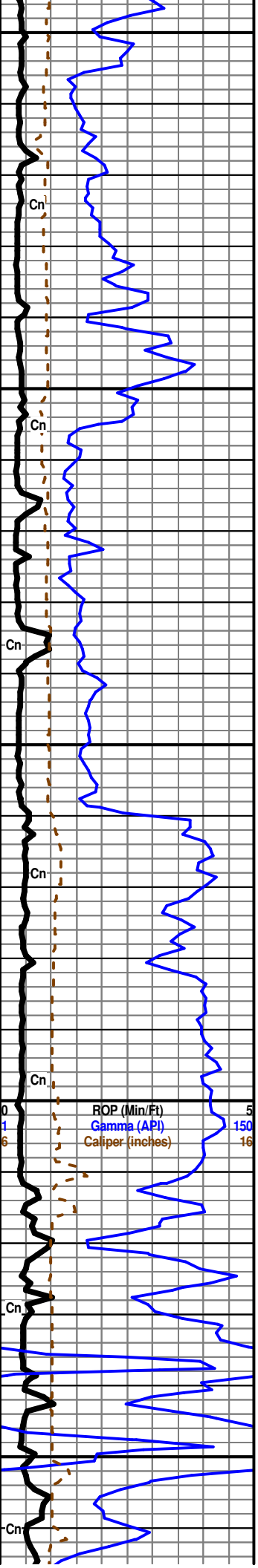
Limestone: gray dk cream, dense tight matrix, vfxln, fossiliferous, poor interxln porosity, no shows noted, no fluorescence, with continued abundant Shale.

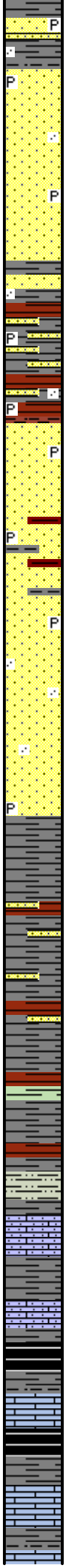
Shale: mostly gray dk gray some brick red dk green, blocky and soft, some waxy, fissile in part, scattered limey material, with scattered Limestone stringers: gray dk cream, dense tight matrix, vfxln, fossiliferous, poor interxln porosity, no shows noted, no fluorescence.

Elgin Sand 3624 (-2160)

INFLUX Sandstone: gray lt gray off white, vf grained, sub-angular to sub-rounded, fairly sorted, slightly friable with most fairly cemented, micaceous to heavily micaceous with some pyritic, fair intergranular porosity in most, no shows noted, no fluorescence.







3650

Start 20' Wet & Dry Samples @ 3650'

Sandstone: gray lt gray, vf-f grained, sub-angular to sub-rounded, fairly sorted, slightly friable with most fairly cemented, micaceous to heavily micaceous with pyritic, poor intergranular porosity, no shows noted, no fluorescence, with interbedded Shale: gray dk gray, mostly blocky and softer, sandy in part.

Sandstone: as above, with continued interbedded Shale, no shows noted.

Shale: gray dk gray some brick red, mostly blocky and softer, sandy in part, with Sandstone stringers: gray lt gray, vf-f grained, sub-angular to sub-rounded, fairly sorted, slightly friable with most fairly-well cemented, micaceous to heavily micaceous with pyritic, becoming shaley in part, poor intergranular porosity, no shows noted, no fluorescence.

3700

Sandstone: gray lt gray, vf-f grained, sub-angular to sub-rounded, fairly sorted, slightly friable with most fairly-well cemented, micaceous to heavily micaceous with pyritic, shaley in part, poor intergranular porosity, no shows noted, no fluorescence, with Shale stringers: gray dk gray brick red, mostly blocky and softer, sandy in part.

Sandstone: gray lt gray, vf-f grained, sub-angular to sub-rounded, fairly sorted, slightly friable with most fairly-well cemented, micaceous to heavily micaceous with pyritic, shaley in part, poor intergranular porosity, no shows noted, no fluorescence.

3750

Predominately Shale: gray dk gray some brick red, blocky to slightly rounded, mostly soft with some slightly dense, waxy in part, some fissile, abundant sandy material.

Shale: gray dk gray some brick red, blocky to slightly rounded, soft to slightly dense and hard, waxy in part, some fissile, scattered sandy, with some scattered Sandstone stringers as above.

Shale: gray dk gray brick red some dk green, blocky and mostly soft, waxy in part, scattered fissile.

3800

Shale: gray dk gray, mostly rounded and harder, silty in part, with scattered Siltstone: gray dk gray, poor visible porosity, no shows noted.

Limestone: lt gray, dense matrix, microxln, mostly barren, arenaceous, poor interxln porosity, no shows noted, no fluorescence.

Shale: gray dk gray, mostly rounded and harder, silty in part.

Limestone: lt gray, dense matrix, microxln, mostly barren, arenaceous, poor interxln porosity, no shows noted, no fluorescence.

Shale: black dk gray, carbonaceous, mostly round and harder, no show gas bubbles, with interbedded Limestone: cream dk cream, dense tight matrix, micro-vfxln, fossiliferous in part, poor visible porosity, no shows noted, no fluorescence.

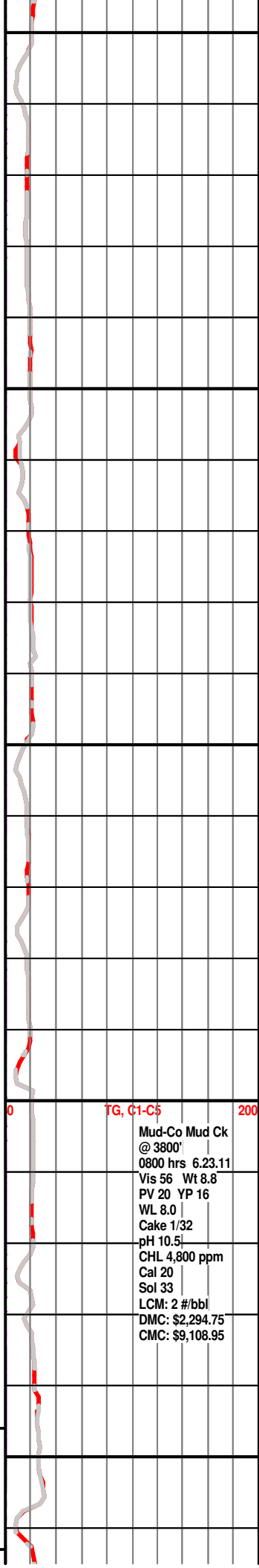
Heebner 3846 (-2382)

3850

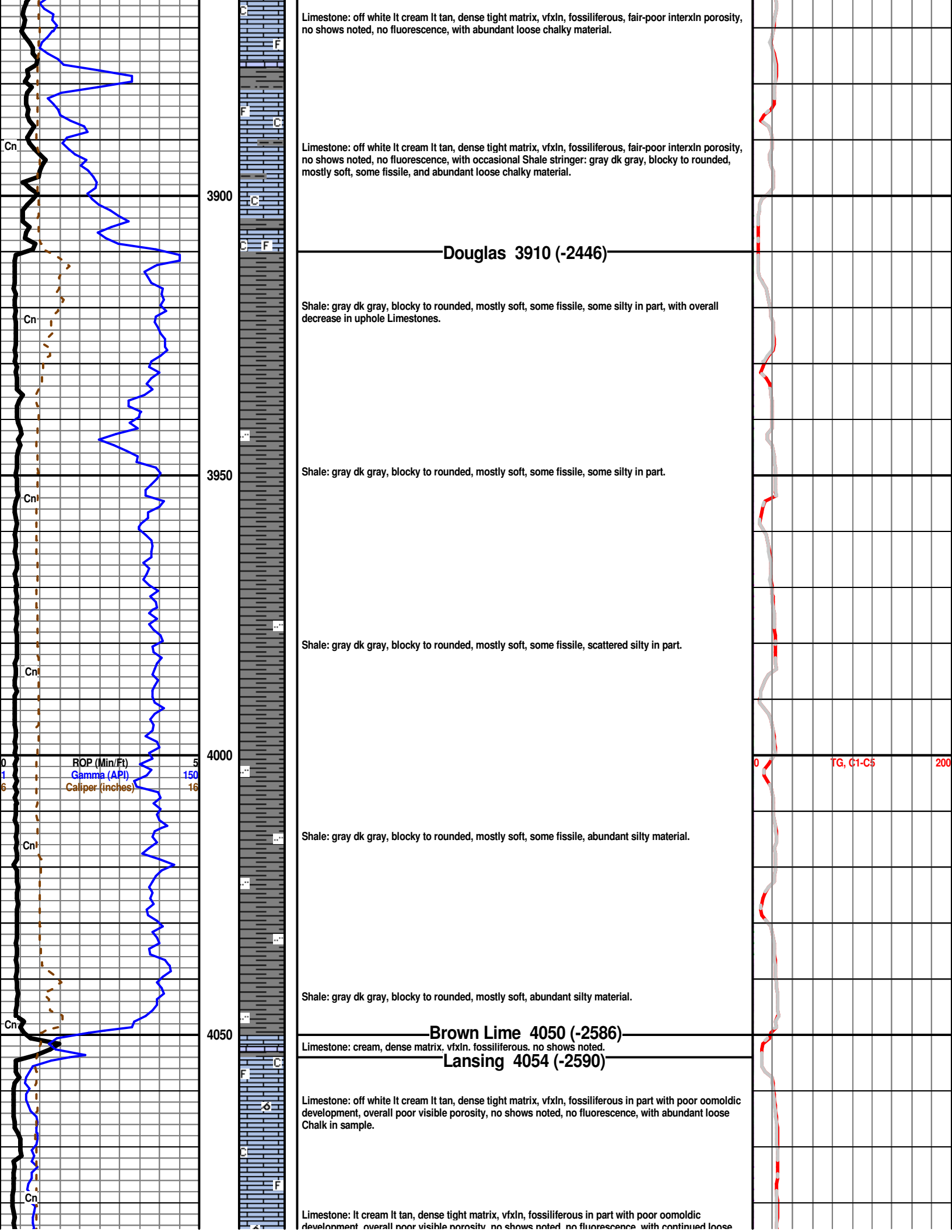
Shale: black dk gray gray, mostly carbonaceous, blocky to rounded, mostly hard and waxy in part, no show gas bubbles.

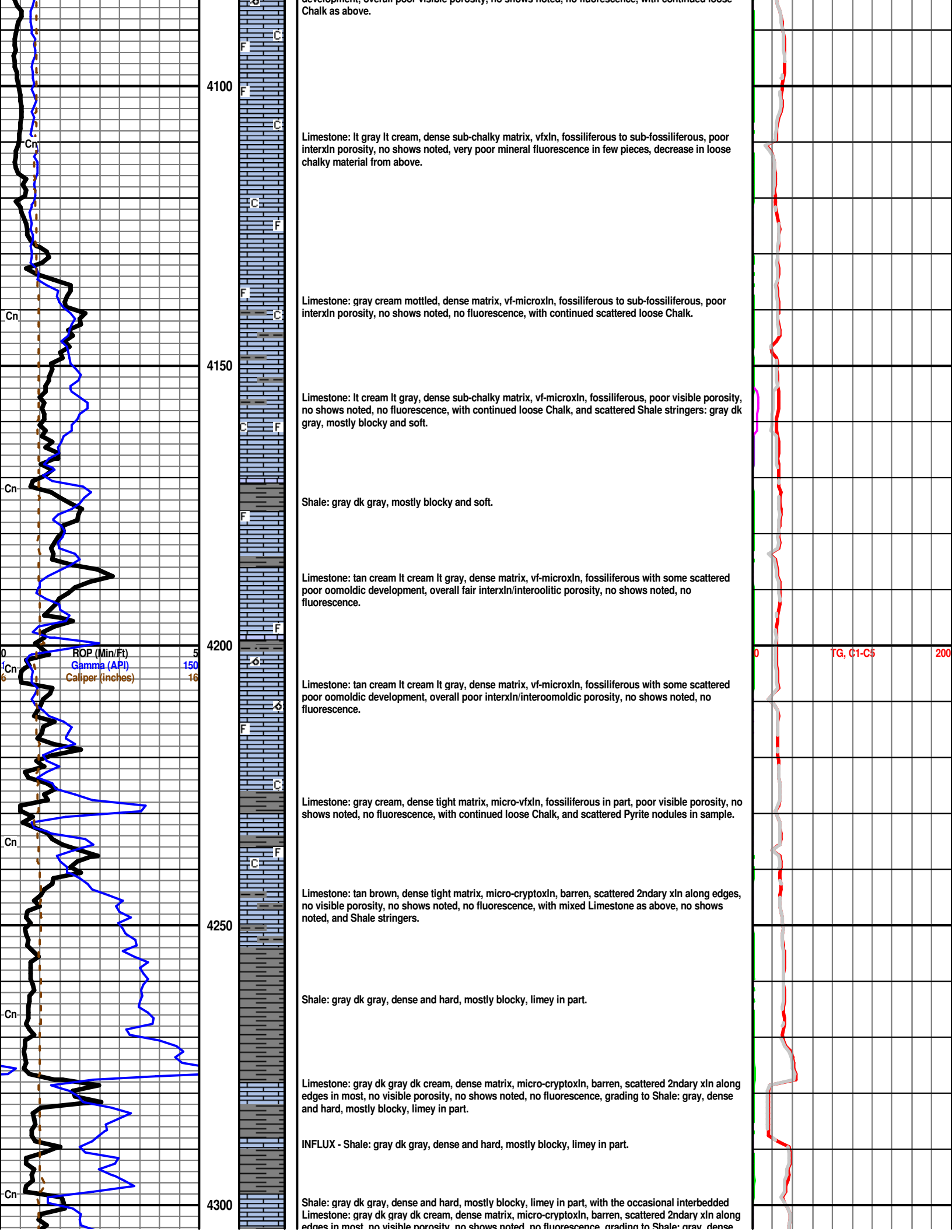
Shale: black dk gray carbonaceous, mostly blocky with some rounded, mostly hard and waxy in part, no show gas bubbles, with some interbedded Limestone, grading to Shale: gray dk gray, mostly blocky and hard.

Toronto 3863 (-2399)



Mud-Co Mud Ck
@ 3800'
0800 hrs 6.23.11
Vis 56 Wt 8.8
PV 20 YP 16
WL 8.0
Cake 1/32
pH 10.5
CHL 4,800 ppm
Cal 20
Sol 33
LCM: 2 #/bbl
DMC: $2,294.75
CMC: $9,108.95


Limestone: off white lt cream lt tan, dense tight matrix, vfxln, fossiliferous, fair-poor interxln porosity, no shows noted, no fluorescence, with abundant loose chalky material.
Limestone: off white lt cream lt tan, dense tight matrix, vfxln, fossiliferous, fair-poor interxln porosity, no shows noted, no fluorescence, with occasional Shale stringer: gray dk gray, blocky to rounded, mostly soft, some fissile, and abundant loose chalky material.
3900
Douglas 3910 (-2446)
Shale: gray dk gray, blocky to rounded, mostly soft, some fissile, some silty in part, with overall decrease in uphole Limestones.
3950
Shale: gray dk gray, blocky to rounded, mostly soft, some fissile, some silty in part.
Shale: gray dk gray, blocky to rounded, mostly soft, some fissile, scattered silty in part.
4000
ROP (Min/Ft)
Gamma (API)
Caliper (inches)
TG, C1-C5
Shale: gray dk gray, blocky to rounded, mostly soft, some fissile, abundant silty material.
Shale: gray dk gray, blocky to rounded, mostly soft, abundant silty material.
4050
Brown Lime 4050 (-2586)
Limestone: cream, dense matrix. vfxln. fossiliferous. no shows noted.
Lansing 4054 (-2590)
Limestone: off white lt cream lt tan, dense tight matrix, vfxln, fossiliferous in part with poor oomoldic development, overall poor visible porosity, no shows noted, no fluorescence, with abundant loose Chalk in sample.
Limestone: lt cream lt tan, dense tight matrix, vfxln, fossiliferous in part with poor oomoldic



development, overall poor visible porosity, no shows noted, no fluorescence, with continued loose Chalk as above.

Limestone: lt gray lt cream, dense sub-chalky matrix, vfxln, fossiliferous to sub-fossiliferous, poor interxln porosity, no shows noted, very poor mineral fluorescence in few pieces, decrease in loose chalky material from above.

Limestone: gray cream mottled, dense matrix, vf-microxln, fossiliferous to sub-fossiliferous, poor interxln porosity, no shows noted, no fluorescence, with continued scattered loose Chalk.

Limestone: lt cream lt gray, dense sub-chalky matrix, vf-microxln, fossiliferous, poor visible porosity, no shows noted, no fluorescence, with continued loose Chalk, and scattered Shale stringers: gray dk gray, mostly blocky and soft.

Shale: gray dk gray, mostly blocky and soft.

Limestone: tan cream lt cream lt gray, dense matrix, vf-microxln, fossiliferous with some scattered poor oomoldic development, overall fair interxln/interoolitic porosity, no shows noted, no fluorescence.

Limestone: tan cream lt cream lt gray, dense matrix, vf-microxln, fossiliferous with some scattered poor oomoldic development, overall poor interxln/interoomoldic porosity, no shows noted, no fluorescence.

Limestone: gray cream, dense tight matrix, micro-vfxln, fossiliferous in part, poor visible porosity, no shows noted, no fluorescence, with continued loose Chalk, and scattered Pyrite nodules in sample.

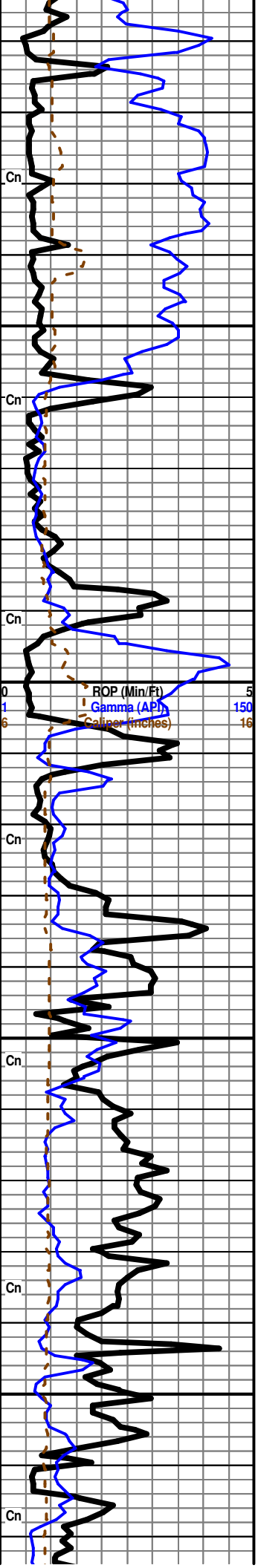
Limestone: tan brown, dense tight matrix, micro-cryptoxln, barren, scattered 2ndary xln along edges, no visible porosity, no shows noted, no fluorescence, with mixed Limestone as above, no shows noted, and Shale stringers.

Shale: gray dk gray, dense and hard, mostly blocky, limey in part.

Limestone: gray dk gray dk cream, dense matrix, micro-cryptoxln, barren, scattered 2ndary xln along edges in most, no visible porosity, no shows noted, no fluorescence, grading to Shale: gray, dense and hard, mostly blocky, limey in part.

INFLUX - Shale: gray dk gray, dense and hard, mostly blocky, limey in part.

Shale: gray dk gray, dense and hard, mostly blocky, limey in part, with the occasional interbedded Limestone: gray dk gray dk cream, dense matrix, micro-cryptoxln, barren, scattered 2ndary xln along edges in most, no visible porosity, no shows noted, no fluorescence, grading to Shale: gray, dense



and hard, mostly blocky, limey in part.

Shale: gray dk gray, dense and hard, mostly blocky, limey in part, some scattered pyritic.

Shale: gray dk gray, dense and hard, mostly blocky with some rounded, limey and silty in part, some slightly pyritic, with scattered Pyrite nodules in sample.

Kansas City 4358 (-2894)

INFLUX - Limestone: lt cream cream, dense tight matrix, vf-microxln, fossiliferous in part, scattered 2ndary xln along edges and fair amount of imbedded calcite crystals, poor visible porosity, no shows noted, even dull pale yellow mineral fluorescence, with loose Chalk, sample washes lt gray-white.

Limestone: lt cream off white cream, dense tight matrix, vf-microxln, fossiliferous, scattered 2ndary xln and imbedded calcite crystals as above, poor visible porosity, no shows noted, even dull pale yellow mineral fluorescence, with continued loose Chalk, sample washes lt gray-white.

Shale: gray dk gray, blocky to rounded, mostly soft and waxy.

Limestone: lt cream off white, dense sub-chalky matrix, microxln, fossiliferous in part, poor visible porosity, no shows noted, even dull pale yellow mineral fluorescence, with Shale: gray dk gray, blocky to rounded, mostly soft and waxy.

Limestone: off white lt cream, chalky matrix, vf-microxln, scattered sub-fossiliferous to barren, poor interxln porosity, no shows noted, even dull pale yellow-white mineral fluorescence, with abundant loose Chalk, sample washes white.

Limestone: off white lt cream lt gray, chalky matrix, vf-microxln, some grainy, mostly barren with some scattered sub-fossiliferous, poor interxln porosity, no shows noted, even dull pale yellow-white mineral fluorescence, with continued loose Chalk, sample washes white.

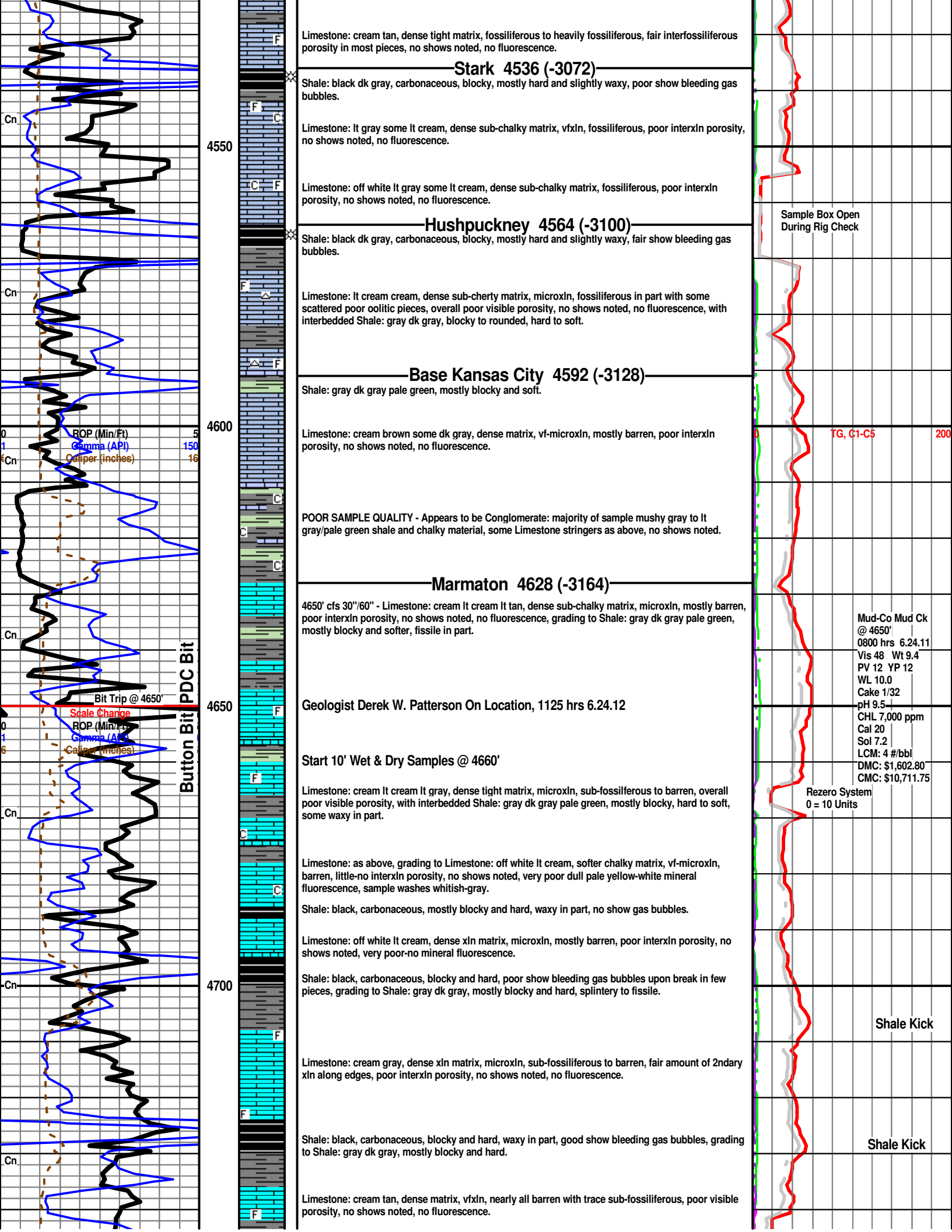
Shale: gray dk gray, mostly blocky and soft, some waxy in part, with abundant Limestone stringes: as above, no shows noted.

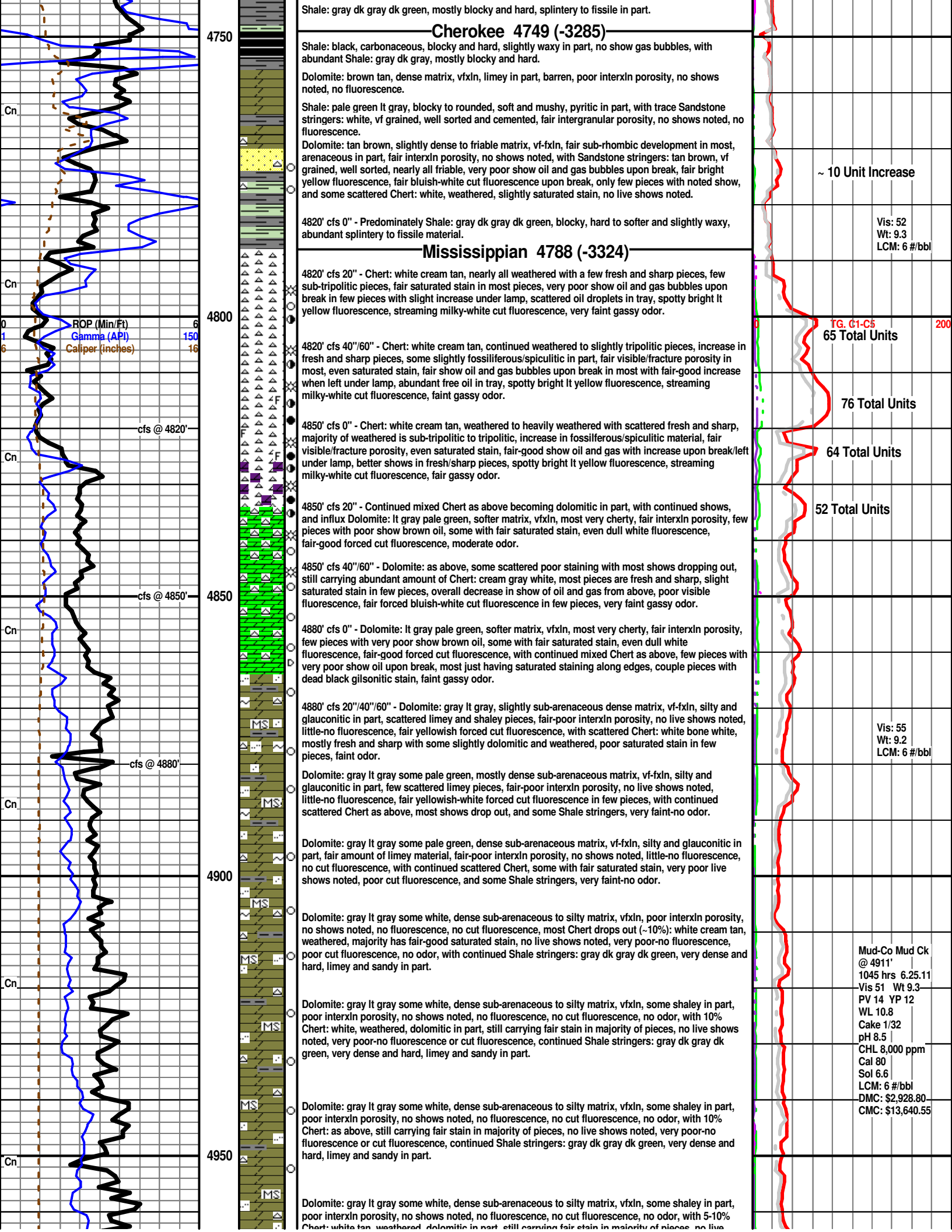
Limestone: gray cream mottled, dense tight matrix, vf-microxln, cherty in part, fossiliferous, poor interxln porosity, no shows noted, no fluorescence, with loose Chalk in sample.

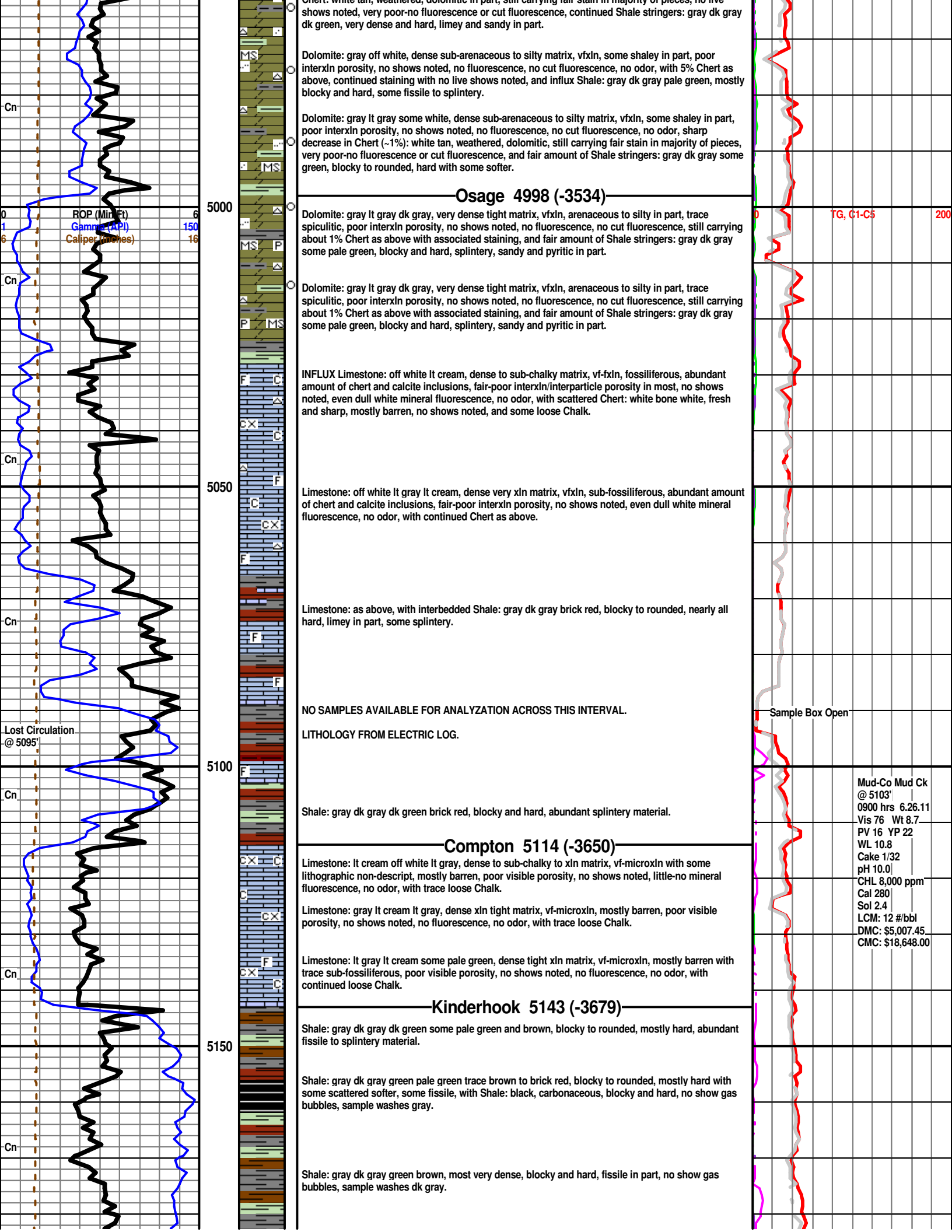
Limestone: lt gray lt cream some mottled and brown, dense tight matrix, vf-microxln with some scattered cryptoxln, cherty in part, mostly sub-fossiliferous, poor-no visible porosity, no shows noted, no fluorescence, with continued Chalk, and scattered Chert: gray smokey gray, fresh and sharp, slightly fossiliferous to barren.

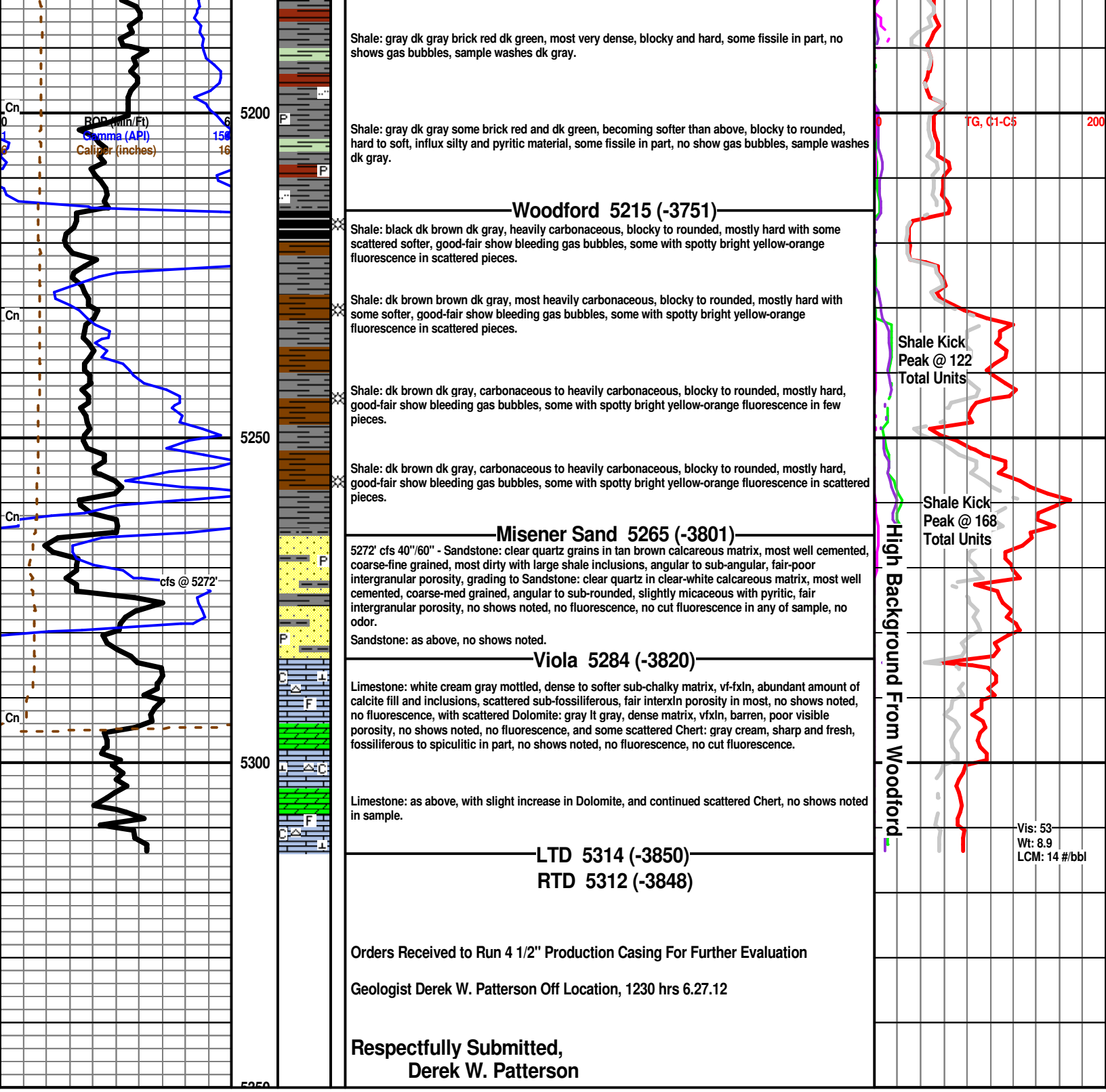
Limestone: lt cream lt tan, dense sub-chalky to tight matrix, vfxln, fossiliferous in part, poor interxln porosity, no shows noted, no fluorescence, with scattered loose Chalk, sample washes whitish-gray.

Limestone: cream lt tan, dense matrix, vfxln, fossiliferous pelletal with oolitic, some scattered poor oomoldic development, fair interoolitic/oomoldic porosity, no shows noted, no fluorescence, with overall decrease in loose Chalk.


ROP (Min/Ft)
Gamma (API)
Caliper (inches)
Bit Trip @ 4650'
Scale Change
Button Bit
PDC Bit
4550
4600
4650
4700
Limestone: cream tan, dense tight matrix, fossiliferous to heavily fossiliferous, fair interfossiliferous porosity in most pieces, no shows noted, no fluorescence.
Stark 4536 (-3072)
Shale: black dk gray, carbonaceous, blocky, mostly hard and slightly waxy, poor show bleeding gas bubbles.
Limestone: lt gray some lt cream, dense sub-chalky matrix, vfxln, fossiliferous, poor interxln porosity, no shows noted, no fluorescence.
Limestone: off white lt gray some lt cream, dense sub-chalky matrix, fossiliferous, poor interxln porosity, no shows noted, no fluorescence.
Hushpuckney 4564 (-3100)
Shale: black dk gray, carbonaceous, blocky, mostly hard and slightly waxy, fair show bleeding gas bubbles.
Limestone: lt cream cream, dense sub-cherty matrix, microxln, fossiliferous in part with some scattered poor oolitic pieces, overall poor visible porosity, no shows noted, no fluorescence, with interbedded Shale: gray dk gray, blocky to rounded, hard to soft.
Base Kansas City 4592 (-3128)
Shale: gray dk gray pale green, mostly blocky and soft.
Limestone: cream brown some dk gray, dense matrix, vf-microxln, mostly barren, poor interxln porosity, no shows noted, no fluorescence.
POOR SAMPLE QUALITY - Appears to be Conglomerate: majority of sample mushy gray to lt gray/pale green shale and chalky material, some Limestone stringers as above, no shows noted.
Marmaton 4628 (-3164)
4650' cfs 30"/60" - Limestone: cream lt cream lt tan, dense sub-chalky matrix, microxln, mostly barren, poor interxln porosity, no shows noted, no fluorescence, grading to Shale: gray dk gray pale green, mostly blocky and softer, fissile in part.
Geologist Derek W. Patterson On Location, 1125 hrs 6.24.12
Start 10' Wet & Dry Samples @ 4660'
Limestone: cream lt cream lt gray, dense tight matrix, microxln, sub-fossilferous to barren, overall poor visible porosity, with interbedded Shale: gray dk gray pale green, mostly blocky, hard to soft, some waxy in part.
Limestone: as above, grading to Limestone: off white lt cream, softer chalky matrix, vf-microxln, barren, little-no interxln porosity, no shows noted, very poor dull pale yellow-white mineral fluorescence, sample washes whitish-gray.
Shale: black, carbonaceous, mostly blocky and hard, waxy in part, no show gas bubbles.
Limestone: off white lt cream, dense xln matrix, microxln, mostly barren, poor interxln porosity, no shows noted, very poor-no mineral fluorescence.
Shale: black, carbonaceous, blocky and hard, poor show bleeding gas bubbles upon break in few pieces, grading to Shale: gray dk gray, mostly blocky and hard, splintery to fissile.
Limestone: cream gray, dense xln matrix, microxln, sub-fossiliferous to barren, fair amount of 2ndary xln along edges, poor interxln porosity, no shows noted, no fluorescence.
Shale: black, carbonaceous, blocky and hard, waxy in part, good show bleeding gas bubbles, grading to Shale: gray dk gray, mostly blocky and hard.
Limestone: cream tan, dense matrix, vfxln, nearly all barren with trace sub-fossiliferous, poor visible porosity, no shows noted, no fluorescence.
Sample Box Open During Rig Check
TG, C1-C5
Mud-Co Mud Ck @ 4650'
0800 hrs 6.24.11
Vis 48 Wt 9.4
PV 12 YP 12
WL 10.0
Cake 1/32
pH 9.5
CHL 7,000 ppm
Cal 20
Sol 7.2
LCM: 4 #/bbl
DMC: $1,602.80
CMC: $10,711.75
Rezero System
0 = 10 Units
Shale Kick
Shale Kick


ROP (Min/Ft) 0 6
Gamma (API) 1 150
Caliper (inches) 6 16
Cn
cfs @ 4820'
cfs @ 4850'
cfs @ 4880'
4750
4800
4850
4900
4950
MS
F
Shale: gray dk gray dk green, mostly blocky and hard, splintery to fissile in part.
Cherokee 4749 (-3285)
Shale: black, carbonaceous, blocky and hard, slightly waxy in part, no show gas bubbles, with abundant Shale: gray dk gray, mostly blocky and hard.
Dolomite: brown tan, dense matrix, vfxln, limey in part, barren, poor interxln porosity, no shows noted, no fluorescence.
Shale: pale green lt gray, blocky to rounded, soft and mushy, pyritic in part, with trace Sandstone stringers: white, vf grained, well sorted and cemented, fair intergranular porosity, no shows noted, no fluorescence.
Dolomite: tan brown, slightly dense to friable matrix, vf-fxln, fair sub-rhombic development in most, arenaceous in part, fair interxln porosity, no shows noted, with Sandstone stringers: tan brown, vf grained, well sorted, nearly all friable, very poor show oil and gas bubbles upon break, fair bright yellow fluorescence, fair bluish-white cut fluorescence upon break, only few pieces with noted show, and some scattered Chert: white, weathered, slightly saturated stain, no live shows noted.
4820' cfs 0" - Predominately Shale: gray dk gray dk green, blocky, hard to softer and slightly waxy, abundant splintery to fissile material.
Mississippian 4788 (-3324)
4820' cfs 20" - Chert: white cream tan, nearly all weathered with a few fresh and sharp pieces, few sub-tripolitic pieces, fair saturated stain in most pieces, very poor show oil and gas bubbles upon break in few pieces with slight increase under lamp, scattered oil droplets in tray, spotty bright lt yellow fluorescence, streaming milky-white cut fluorescence, very faint gassy odor.
4820' cfs 40"/60" - Chert: white cream tan, continued weathered to slightly tripolitic pieces, increase in fresh and sharp pieces, some slightly fossiliferous/spiculitic in part, fair visible/fracture porosity in most, even saturated stain, fair show oil and gas bubbles upon break in most with fair-good increase when left under lamp, abundant free oil in tray, spotty bright lt yellow fluorescence, streaming milky-white cut fluorescence, faint gassy odor.
4850' cfs 0" - Chert: white cream tan, weathered to heavily weathered with scattered fresh and sharp, majority of weathered is sub-tripolitic to tripolitic, increase in fossilferous/spiculitic material, fair visible/fracture porosity, even saturated stain, fair-good show oil and gas with increase upon break/left under lamp, better shows in fresh/sharp pieces, spotty bright lt yellow fluorescence, streaming milky-white cut fluorescence, fair gassy odor.
4850' cfs 20" - Continued mixed Chert as above becoming dolomitic in part, with continued shows, and influx Dolomite: lt gray pale green, softer matrix, vfxln, most very cherty, fair interxln porosity, few pieces with poor show brown oil, some with fair saturated stain, even dull white fluorescence, fair-good forced cut fluorescence, moderate odor.
4850' cfs 40"/60" - Dolomite: as above, some scattered poor staining with most shows dropping out, still carrying abundant amount of Chert: cream gray white, most pieces are fresh and sharp, slight saturated stain in few pieces, overall decrease in show of oil and gas from above, poor visible fluorescence, fair forced bluish-white cut fluorescence in few pieces, very faint gassy odor.
4880' cfs 0" - Dolomite: lt gray pale green, softer matrix, vfxln, most very cherty, fair interxln porosity, few pieces with very poor show brown oil, some with fair saturated stain, even dull white fluorescence, fair-good forced cut fluorescence, with continued mixed Chert as above, few pieces with very poor show oil upon break, most just having saturated staining along edges, couple pieces with dead black gilsonitic stain, faint gassy odor.
4880' cfs 20"/40"/60" - Dolomite: gray lt gray, slightly sub-arenaceous dense matrix, vf-fxln, silty and glauconitic in part, scattered limey and shaley pieces, fair-poor interxln porosity, no live shows noted, little-no fluorescence, fair yellowish forced cut fluorescence, with scattered Chert: white bone white, mostly fresh and sharp with some slightly dolomitic and weathered, poor saturated stain in few pieces, faint odor.
Dolomite: gray lt gray some pale green, mostly dense sub-arenaceous matrix, vf-fxln, silty and glauconitic in part, few scattered limey pieces, fair-poor interxln porosity, no live shows noted, little-no fluorescence, fair yellowish-white forced cut fluorescence in few pieces, with continued scattered Chert as above, most shows drop out, and some Shale stringers, very faint-no odor.
Dolomite: gray lt gray some pale green, dense sub-arenaceous matrix, vf-fxln, silty and glauconitic in part, fair amount of limey material, fair-poor interxln porosity, no shows noted, little-no fluorescence, no cut fluorescence, with continued scattered Chert, some with fair saturated stain, very poor live shows noted, poor cut fluorescence, and some Shale stringers, very faint-no odor.
Dolomite: gray lt gray some white, dense sub-arenaceous to silty matrix, vfxln, poor interxln porosity, no shows noted, no fluorescence, no cut fluorescence, most Chert drops out (~10%): white cream tan, weathered, majority has fair-good saturated stain, no live shows noted, very poor-no fluorescence, poor cut fluorescence, no odor, with continued Shale stringers: gray dk gray dk green, very dense and hard, limey and sandy in part.
Dolomite: gray lt gray some white, dense sub-arenaceous to silty matrix, vfxln, some shaley in part, poor interxln porosity, no shows noted, no fluorescence, no cut fluorescence, no odor, with 10% Chert: white, weathered, dolomitic in part, still carrying fair stain in majority of pieces, no live shows noted, very poor-no fluorescence or cut fluorescence, continued Shale stringers: gray dk gray dk green, very dense and hard, limey and sandy in part.
Dolomite: gray lt gray some white, dense sub-arenaceous to silty matrix, vfxln, some shaley in part, poor interxln porosity, no shows noted, no fluorescence, no cut fluorescence, no odor, with 10% Chert: as above, still carrying fair stain in majority of pieces, no live shows noted, very poor-no fluorescence or cut fluorescence, continued Shale stringers: gray dk gray dk green, very dense and hard, limey and sandy in part.
Dolomite: gray lt gray some white, dense sub-arenaceous to silty matrix, vfxln, some shaley in part, poor interxln porosity, no shows noted, no fluorescence, no cut fluorescence, no odor, with 5-10%
~ 10 Unit Increase
Vis: 52
Wt: 9.3
LCM: 6 #/bbl
TG. C1-C5 0 200
65 Total Units
76 Total Units
64 Total Units
52 Total Units
Vis: 55
Wt: 9.2
LCM: 6 #/bbl
Mud-Co Mud Ck
@ 4911'
1045 hrs 6.25.11
Vis 51 Wt 9.3
PV 14 YP 12
WL 10.8
Cake 1/32
pH 8.5
CHL 8,000 ppm
Cal 80
Sol 6.6
LCM: 6 #/bbl
DMC: $2,928.80
CMC: $13,640.55


0
ROP (Min/Ft)
6
1
Gamma (API)
150
6
Caliper (Inches)
16
Cn
5000
5050
5100
5150
Lost Circulation
@ 5095'
Shows noted, very poor-no fluorescence or cut fluorescence, continued Shale stringers: gray dk gray dk green, very dense and hard, limey and sandy in part.
Dolomite: gray off white, dense sub-arenaceous to silty matrix, vfxln, some shaley in part, poor interxln porosity, no shows noted, no fluorescence, no cut fluorescence, no odor, with 5% Chert as above, continued staining with no live shows noted, and influx Shale: gray dk gray pale green, mostly blocky and hard, some fissile to splintery.
Dolomite: gray lt gray some white, dense sub-arenaceous to silty matrix, vfxln, some shaley in part, poor interxln porosity, no shows noted, no fluorescence, no cut fluorescence, no odor, sharp decrease in Chert (~1%): white tan, weathered, dolomitic, still carrying fair stain in majority of pieces, very poor-no fluorescence or cut fluorescence, and fair amount of Shale stringers: gray dk gray some green, blocky to rounded, hard with some softer.
Osage 4998 (-3534)
Dolomite: gray lt gray dk gray, very dense tight matrix, vfxln, arenaceous to silty in part, trace spiculitic, poor interxln porosity, no shows noted, no fluorescence, no cut fluorescence, still carrying about 1% Chert as above with associated staining, and fair amount of Shale stringers: gray dk gray some pale green, blocky and hard, splintery, sandy and pyritic in part.
Dolomite: gray lt gray dk gray, very dense tight matrix, vfxln, arenaceous to silty in part, trace spiculitic, poor interxln porosity, no shows noted, no fluorescence, no cut fluorescence, still carrying about 1% Chert as above with associated staining, and fair amount of Shale stringers: gray dk gray some pale green, blocky and hard, splintery, sandy and pyritic in part.
INFLUX Limestone: off white lt cream, dense to sub-chalky matrix, vf-fxln, fossiliferous, abundant amount of chert and calcite inclusions, fair-poor interxln/interparticle porosity in most, no shows noted, even dull white mineral fluorescence, no odor, with scattered Chert: white bone white, fresh and sharp, mostly barren, no shows noted, and some loose Chalk.
Limestone: off white lt gray lt cream, dense very xln matrix, vfxln, sub-fossiliferous, abundant amount of chert and calcite inclusions, fair-poor interxln porosity, no shows noted, even dull white mineral fluorescence, no odor, with continued Chert as above.
Limestone: as above, with interbedded Shale: gray dk gray brick red, blocky to rounded, nearly all hard, limey in part, some splintery.
NO SAMPLES AVAILABLE FOR ANALYZATION ACROSS THIS INTERVAL.
LITHOLOGY FROM ELECTRIC LOG.
Shale: gray dk gray dk green brick red, blocky and hard, abundant splintery material.
Compton 5114 (-3650)
Limestone: lt cream off white lt gray, dense to sub-chalky to xln matrix, vf-microxln with some lithographic non-descript, mostly barren, poor visible porosity, no shows noted, little-no mineral fluorescence, no odor, with trace loose Chalk.
Limestone: gray lt cream lt gray, dense xln tight matrix, vf-microxln, mostly barren, poor visible porosity, no shows noted, no fluorescence, no odor, with trace loose Chalk.
Limestone: lt gray lt cream some pale green, dense tight xln matrix, vf-microxln, mostly barren with trace sub-fossiliferous, poor visible porosity, no shows noted, no fluorescence, no odor, with continued loose Chalk.
Kinderhook 5143 (-3679)
Shale: gray dk gray dk green some pale green and brown, blocky to rounded, mostly hard, abundant fissile to splintery material.
Shale: gray dk gray green pale green trace brown to brick red, blocky to rounded, mostly hard with some scattered softer, some fissile, with Shale: black, carbonaceous, blocky and hard, no show gas bubbles, sample washes gray.
Shale: gray dk gray green brown, most very dense, blocky and hard, fissile in part, no show gas bubbles, sample washes dk gray.
0
TG, C1-C5
200
Sample Box Open
Mud-Co Mud Ck
@ 5103'
0900 hrs 6.26.11
Vis 76 Wt 8.7
PV 16 YP 22
WL 10.8
Cake 1/32
pH 10.0
CHL 8,000 ppm
Cal 280
Sol 2.4
LCM: 12 #/bbl
DMC: $5,007.45
CMC: $18,648.00



Shale: gray dk gray brick red dk green, most very dense, blocky and hard, some fissile in part, no shows gas bubbles, sample washes dk gray.

Shale: gray dk gray some brick red and dk green, becoming softer than above, blocky to rounded, hard to soft, influx silty and pyritic material, some fissile in part, no show gas bubbles, sample washes dk gray.

Woodford 5215 (-3751)

Shale: black dk brown dk gray, heavily carbonaceous, blocky to rounded, mostly hard with some scattered softer, good-fair show bleeding gas bubbles, some with spotty bright yellow-orange fluorescence in scattered pieces.

Shale: dk brown brown dk gray, most heavily carbonaceous, blocky to rounded, mostly hard with some softer, good-fair show bleeding gas bubbles, some with spotty bright yellow-orange fluorescence in scattered pieces.

Shale: dk brown dk gray, carbonaceous to heavily carbonaceous, blocky to rounded, mostly hard, good-fair show bleeding gas bubbles, some with spotty bright yellow-orange fluorescence in few pieces.

Shale: dk brown dk gray, carbonaceous to heavily carbonaceous, blocky to rounded, mostly hard, good-fair show bleeding gas bubbles, some with spotty bright yellow-orange fluorescence in scattered pieces.

Misener Sand 5265 (-3801)

5272' cfs 40"/60" - Sandstone: clear quartz grains in tan brown calcareous matrix, most well cemented, coarse-fine grained, most dirty with large shale inclusions, angular to sub-angular, fair-poor intergranular porosity, grading to Sandstone: clear quartz in clear-white calcareous matrix, most well cemented, coarse-med grained, angular to sub-rounded, slightly micaceous with pyritic, fair intergranular porosity, no shows noted, no fluorescence, no cut fluorescence in any of sample, no odor.

Sandstone: as above, no shows noted.

Viola 5284 (-3820)

Limestone: white cream gray mottled, dense to softer sub-chalky matrix, vf-fxln, abundant amount of calcite fill and inclusions, scattered sub-fossiliferous, fair interxln porosity in most, no shows noted, no fluorescence, with scattered Dolomite: gray lt gray, dense matrix, vfxln, barren, poor visible porosity, no shows noted, no fluorescence, and some scattered Chert: gray cream, sharp and fresh, fossiliferous to spiculitic in part, no shows noted, no fluorescence, no cut fluorescence.

Limestone: as above, with slight increase in Dolomite, and continued scattered Chert, no shows noted in sample.

LTD 5314 (-3850)
RTD 5312 (-3848)

Orders Received to Run 4 1/2" Production Casing For Further Evaluation

Geologist Derek W. Patterson Off Location, 1230 hrs 6.27.12

Respectfully Submitted,
Derek W. Patterson

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

September 18, 2012

David Withrow
Edison Operating Company LLC
9427 E. Cross Creek
WICHITA, KS 67206

Re: ACO1
API 15-007-23902-00-00
OF Sterling 1-31
SW/4 Sec.31-34S-12W
Barber County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
David Withrow